CZECH/37-59-1-16/26

AUTHORS: Marie Simerská, Vladimír Syneček

TITLE: A Contribution to the Semi-Focusing Method with a Plane Polycrystalline Sample

PERIODICAL: Československý Časopis Pro Fysiku, 1959, Nr 1, pp 102-104 + 1 plate

ABSTRACT: Fig 1 shows the semi-focusing method with a divergent beam of monochromatic X-rays, for the case when the width of the effective area of the sample is small compared with the radius of the focusing circle and the radius of the camera. In this case only rays passing through points P_1 and P_2 are completely focused. The width of the diffraction lines for other angles for a given total divergence of the primary beam, 2δ, can be minimised according to Fig 2 (see also Eqs 1, 2, and 3). A similar calculation can be used for an oscillating sample. The absorption factor is, in this case, given by Eq (6). Fig 4 shows the absorption for various regions of oscillations ε.
There are 4 figures and 2 English references.

Card 1/2

CZECH/37-59-1-16/26

A Contribution to the Semi-Focusing Method with a Plane Polycrystalline Sample

ASSOCIATION: Ústav technické fysiky ČSAV, Praha
(Institute of Technical Physics, CSAV, Prague)

Card 2/2

SUBMITTED: September 9, 1958

CZECHOSLOVAKIA/Solid State Physics - Structural Crystallography. E

Abs Jour : Ref Zhur Fizika, No 4, 1960, 8659

Author : Simerska Marie, Synecek Vladimir
Inst : -
Title : A Contribution to the Semi-Focusing Method with a Flat Polycrystalline Sample

Orig Pub : Czechoslo. fiz. zh., 1959, 9, No 3, 395-398

Abstract : See Abstract 8658.

Card 1/1

SYNECEK, V.

Quantitative method for the determination of fiber texture in wires. I. Principle method and analytic expression of the absorption factor. p. 406

CESKOSLOVENSKY CASOPIS PRO FYSIKU. (Ceskoslovenska akademie ved. Ustav technicke fysiky) Praha, Czechoslovakia. Vol. 9, no. 4, 1959.

Monthly List of East European Accessions (EEAI), LC. Vol. 8, no. 10, Oct. 1959
Uncl.

SYNECEK, Vladimir

3

A method of the intensity distribution measurement of the small-angle scattering of x-rays eliminating the influence of imperfect collimation. Vladimír Synečeк (Inst. Tech. Phys. Czechoslovak Acad. Sci., Prague). *Acta Cryst.* 13, 378–80(1960)(in English).—A new method is described for the intensity distribution measurement of the diffuse radially sym. small-angle scattering pattern distorted by the finite height of the direct beam of negligible width. This method consists in measuring the values of the intensities integrated along the lines parallel to the trace of the direct beam in the plane of observation. The true radial intensity distribution (corresponding to the use of the direct beam of point-like cross section) derived from the distribution of these integrated intensities is unaffected both by the intensity distribution along the height of the direct beam and by the finite height of the exploring slit of the detector used for the intensity measurements.

W. Nowacki

ACCESSION NR: AP4041976 Z/0055/64/014/007/0510/0516

AUTHOR: Synecek, V.

TITLE: On the determination of scale and temperature factors in crystal structure analysis

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 14, no. 7, 1964, 510-516

TOPIC TAGS: scale factor, temperature factor, crystal structure, x ray diffraction, crystal structure analysis

ABSTRACT: A procedure for reducing the relative intensities of x-ray diffractions to an absolute scale and for simultaneously determining the temperature factor is described. It is based on principles similar to those of the exact procedure given by Kartha for determining the scale factor c but has the advantage that its use is not limited to a prior knowledge of the temperature factor M. The relations given here can be transformed into Wilson's well-known statistical treatment by introducing certain approximations. The reliability of Wilson's method is discussed; the only factor seriously affecting the accuracy

Card 1/2

ACCESSION NR: AP4041976

of values of c and M obtained by either method is the mutual overlap of individual atomic electron densities resulting from the use of small ranges of reciprocal volume for calculations.

ASSOCIATION: Institute of Solid State Physics, Czechoslovak Academy of Sciences

SUBMITTED: 29Dec63 ENCL: 00

SUB CODE: SS NO REF SOV: 000 OTHER: 003

Card 2/2

SYNECEK, V.; SEBO, .

On the configuration of Guinier-Preston zones in Al-Ag and Al-Zn alloys. Chekhosl fiz zhurnal 14 no.8:622-628 '64

1. Institute of Solid State Physics, Czechoslovak Academy of Sciences, Prague 6, Cukrovarnicka 10 (for Synecek). 2. Laboratory of Metal Physics, Slovak Academy of Sciences, Bratislava, Februaroveho vitazstva 135 (for Sebo).

PAUL S-JAKÓ M., Maria; SYNECTY, V.

Small-angle X-ray diffraction studies on rat-tail tendon.
Acta physiol. acad. sci. Hung. 28 no.1:1-17 '65.

1. Research Institute for Technical Physics, Hungarian Academy of Sciences, Budapest, and Institute of Solid State Physics, Czechoslovak Academy of Sciences, Prague. Submitted October 23, 1964.

SYNECKY, Ladislav; DIKANT, Michal; VOJTEK, Vojtech

Protection of induction coils in medium frequency induction furnaces. Elektrotechnik 17 no.1:26-28 Ja '62.

1. Podnikova elektroudrzba, n.p. Chemosvit (for Dikant and Vojtek) 2. Vedouci elektroudrzby, Ceskomoravska-Kolben-Danek, n.p., zavod slevarny - Stalingrad II (for Synecky).

SYNECKY, Ladislav

Shortcomings of the electric tension tester Vadas. Elektrotechnik 17 no.6:175-176 Je '62.

1. Slevarny, Ceskomoravska-KolbenDanek Praha.

SYNECKY, L.

Electrical heating of oxygen for medical inhaling apparatus.
Elektrotechnik 17 no.9:268-269 S '62.

1. Ceskomoravska-Kolben-Danek Praha.

SYNEK, D.

Organization of food-industry enterprises. p. 285.

(Prumysl Potravin. Vol. 8, no. 6, 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

KABELAC, Josef; SYNEK, Ivan

Determining the passage of stars by the method of interrupted lighting in the field of vision. Studia geophys 8 no. 2: 120-126 '64.

1. Chair of Higher Geodesy, Czech High School of Technology, Prague 2, Karlovo namesti 13.

H-17

CATEGORY :

ABS. JOUR. : RZKhim., No. 5 1960, No. 19051

AUTHOR : Rektorik, Z., Rybacek, L., Synek, J., and Zajicek, R.

INST. : Not given

TITLE : Eye Drops Containing Zinc Sulfate Prepared According to PhBs II, Their Composition, and Preparation Methods.

ORIG. PUB. : Ceskoslov Farmac, 7, No 9, 508-511 (1958)

ABSTRACT : The composition and preparation method for the above-indicated medicinal preparation have been checked from the point of view of possible incompatibility of phenylmercuriborate with NaCl, and the effect of various synthesis aids and of the temperature of the solvent on the hydrolysis of $ZnSO_4$. It is proposed to dissolve $ZnSO_4$ (0.25%) and the synthesis aids (0.5% CH_3COONa and 0.6% NaCl) in a solution of phenylmercuriborate (0.002%) at about 20°. The above procedure eliminates the

CARD: 1/2

H-17

COUNTRY : Czechoslovakia
CATEGORY :

19051

ABS. JOUR. : RZKhim., No. 5 1960, No.

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : incompatibility of the phenylmercury cation with the Cl^- anion and avoids the use of warm water as indicated in the Czechoslovak Pharmacopoeia II, which increases the hydrolysis of $ZnSO_4$. A more satisfactory forumulation for the preparation of eye drops containing $ZnSO_4$ and borate buffer solution (pH 6.3) is given.

From authors' summary

293

CARD: 2/2

SYNEK J.

1369. **The survival of pathogenic bacteria in peloids** Přežívání patogenních bakterií v peloidech. SYNEK J. Vyzkumny Ust. Balneol., Praha *Fysiat. Vestn.* 1958, 36/3 (138–143) Tables 2

Testing the time of survival of Staph. aureus, Esch. coli and Ps. aeruginosa in samples of high-moor peat, low-moor peat, chalk-moor soil and curative muds for baths and in those of cataplasm consistence, the longest time of survival was found in Ps. aeruginosa samples of curative muds (more than 120 days) and the shortest in Staph. aureus (30 days). Using repeatedly the same peloid materials in application consistence within a short period there is no guarantee that possible pathogenic organisms are not transmitted. The conditions during the regeneration of particular peloids should be investigated in long-term experiments with micro-organisms of different resistance under conditions typical for the localities where the peloids occur in nature.

PRIVORA, M.; SYNEK, J.

On the disinfectant value of soap with hexachlorophene. Cesk. epidem. 12 no.4:249-253 Jl '63.

1. Ustav epidemiologie a mikrobiologie v Praze.
(SOAPS) (HEXACHLOROPHENE) (ANTISEPTICS)

VLACIL, F.; SYNEK, J.

Determination of chloramphenicol contents in the sodium salt of chloramphenicol succinate. Coll Cz chem 29 no.7:1618-1625 Jl '64.

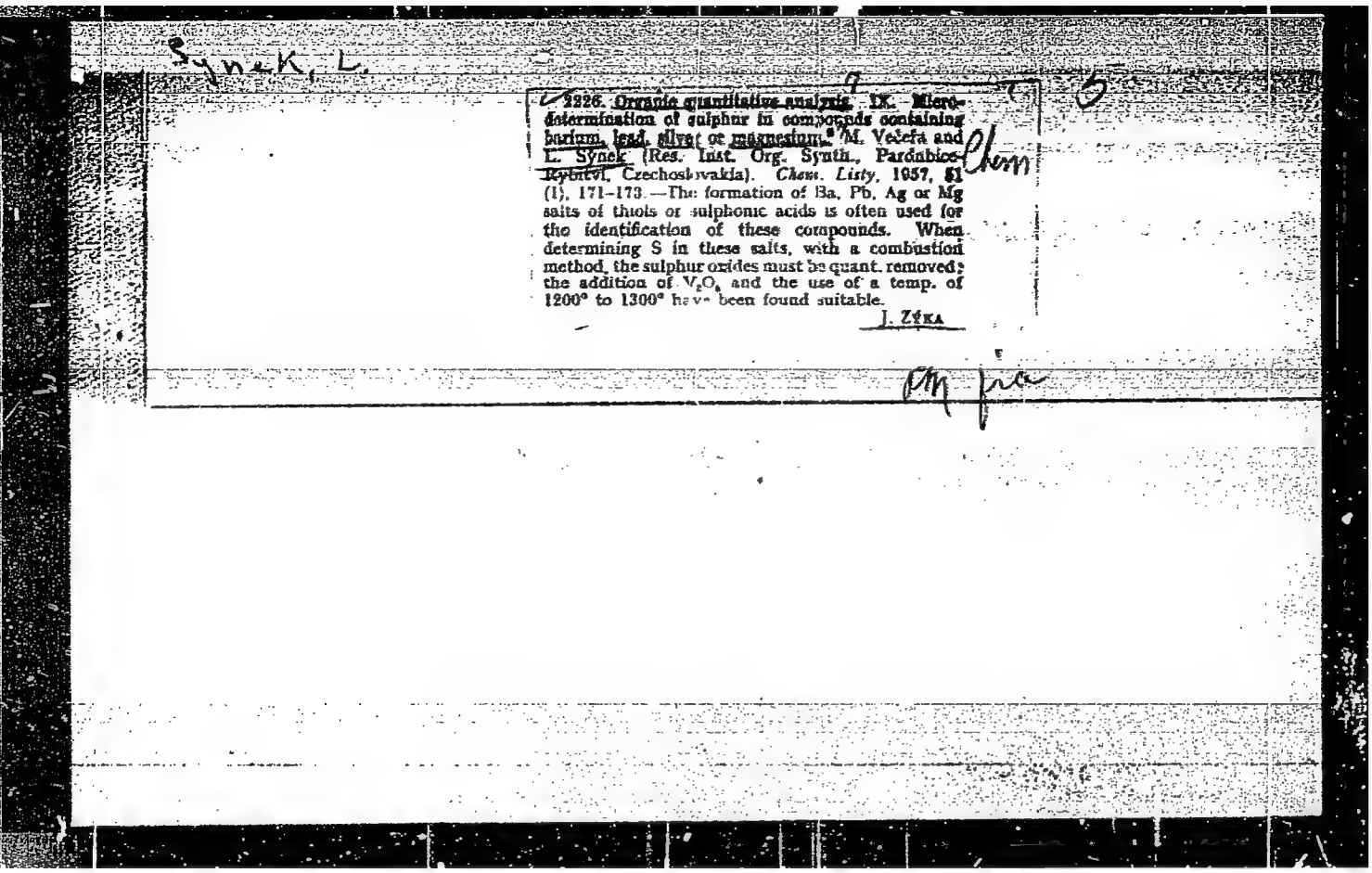
1. Institut fur analytische Chemie, Technische Hochschule fur Chemie, Prag.

SCHREIBER, P.; SYNEK, J.: Section of Radioisotopes of the Department of Analytical Chemistry, Pharmaceutical Faculty, Comenius University (Radioizotopove Oddelenie Katedry Analytickej Chemie Farmaceutickej Fakulty UK), Bratislava; Department of Technical [illegible] prise (N.P.), Dolni Mecholupy.

"Analytical Methods Based on Reflection and Absorption of Radioactive Radiation. IV. Evaluation of Process Control Application of the Radiometric Method in Technical Control of Contrast Materials."

Prague, Ceskoslovenska Farmacie, Vol 15, No 9, Nov 66, pp 508-509

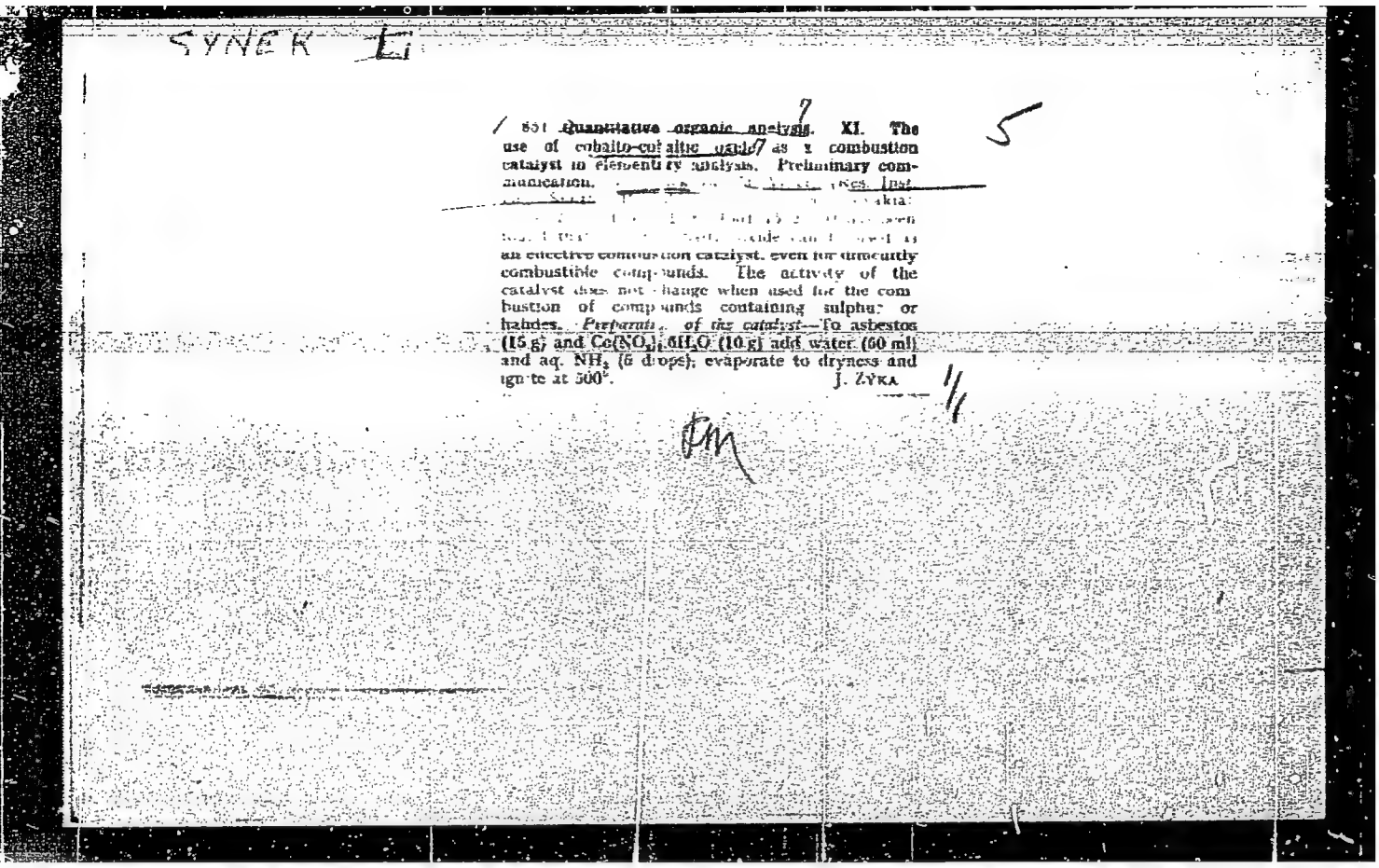
Abstract: The authors discuss a process control method applied to substances used as injection materials which contain iodine. The method is set to detect such concentrations of iodine which are below a specified minimum, or above a set maximum. The method uses a reflection of the radioactive rays. The analysis is completed in 10 minutes, while a chemical analysis requires 1½ to 3 hours. The chemical method uses a wet decomposition of the substance and argentometric determination applying poten-



Synek, L.

2226. Organic quantitative analysis. IX. Micro-determination of sulphur in compounds containing barium, lead, silver or magnesium. M. Večeřa and L. Synek (Res. Inst. Org. Synth., Pardubice-Rybitví, Czechoslovakia). *Chem. Listy*, 1957, **51** (1), 171–173.—The formation of Ba, Pb, Ag or Mg salts of thiols or sulphonic acids is often used for the identification of these compounds. When determining S in these salts, with a combustion method, the sulphur oxides must be quant. removed; the addition of V_2O_5 and the use of a temp. of 1200° to 1300° have been found suitable.

J. Zýka



SYNER E

851 **Quantitative organic analysis. XI. The use of cobalto-cobaltic oxide as a combustion catalyst in elementary analysis. Preliminary communication.**

[illegible] an effective combustion catalyst, even for difficultly combustible compounds. The activity of the catalyst does not change when used for the combustion of compounds containing sulphur or halides. *Preparation of the catalyst.*—To asbestos (15 g) and $Co(NO_3)_2.6H_2O$ (10 g) add water (60 ml) and aq. NH_3 (6 drops), evaporate to dryness and ignite at 500°.

J. ZÝKA

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khimiya, No 2, 1959, 4378

Author : Vecera, M., Synek, L.
Inst : -
Title : Qualitative Organic Analysis. XVIII. Microdetermination of Carbon and Hydrogen Using Cobaltous-Cobaltic Oxide as a Combustion Catalyst.

Orig Pub : Chem Listy, 51, No 12, 2266-2274 (1957) (in Czech)

Abstract : A simple and reliable micromethod has been developed for the determination of C and H in organic substances. The combustion is carried out in a quartz tube of 300 mm length and 9 mm I. D., using Co_3O_4 on asbestos (thickness of catalyst bed 2.5 mm) as catalyst (RZhKhim, 1958, 43082). A 3-5 mg sample is ignited in a Pt-dish in a stream of O_2 for 3-5 min; for substances having high vapor pressures, 5-10 min are required. The high

Card 1/2

Distr: 4E2c

Quantitative organic analysis. XIII. A rapid carbon-hydrogen microdetermination. M. Večeřa, D. Šnobl, and L. Synek (Mikroanaly. Lab., VÚOS, Pardubice-Rybitví, Czech.) *Mikrochim. Acta* 1958, 9–27; cf. *C.A.* 51, 16207*b*; 25, 19712*b*.—This micromethod for the detn. of C and H uses Co_3O_4 as a combustion catalyst. The app. for the combustion, that for removing the other products, and the absorption chambers for the H and C is described. The accuracy is equal to that of other methods. XIV. Microdetermination of sulfur. M. Večeřa and D. Šnobl. *Ibid.* 28–40.—This is a rapid and accurate micromethod for detg. S. The substance is first burned in a stream of O at 700°, after which the S oxides are trapped in Ag wool. The trap is heated to 450°, the Ag_2SO_4 is extd. with H_2O and the Ag is detd. by potentiometric or visual means. The mechanism of the reaction of the S oxides with Ag is explained. This method is compared statistically with the Zimmermann method (*C.A.* 47, 2638*e*). Also a rapid colorimetric method for the detn. of 0.005 to 8% S in org. and inorg. material is described. XV. Microdetermination of chlorine and bromine in organic substances. M. Večeřa and J. Bulušek. *Ibid.* 41–51.—This is a rapid method for detg. Cl and Br in org. materials. The sample is burned in a quartz tube and the halogen ions are then absorbed in H_2O_2. The Cl is then detd. by the Vieböck method (*C.A.* 26, 3206) and the Br argentometrically with the aid of an adsorption indicator. The findings were compared with those of Kainz and Resch (*C.A.* 46, 4950*d*) and Schöniger (*C.A.* 50, 14433*d*). A method is described for detg. small amts. of Cl and Br in org. materials. H. W. Harvey

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. E-3

Abs Jour: Ref Zhur-Khim , No 13, 1958, 43082.

Author : X. Vecera Miroslav, Dulusek Jaroslav.
XI. Synek Ladislav, Vecera Miroslav.

Inst :

Title : Organic Quantitative Analysis. X. Micro-Determination of Chlorine and Bromine in Organic Substances. XI. Use of Cobalto-Cobaltic Oxide as Combustion Catalyst in Elementary Analysis.

Orig Pub: Chem. listy, 1957, 51, No 8, 1475-1481, 1551-1552; Collct. czechosl. chem communs, 1958, 23, No 2, 257-264, 331-333.

Abstract: X. 1-5 mg (determination of Cl) or 4-7 mg (determination of Br) of the substance are used in the combustion

Card : 1/5

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43082.

red and methylene blue 3:1) which has a grey transition shade, 10 ml of freshly neutralized saturated solution of $HgO.Hg(CN)_2$ are added, and after 1 minute the titration is carried out with 0.01 N H_2SO_4 to the initial gray shade (Viebock F., Ber., 1932, 65, 496). Br^- is determined by titration of exactly neutralized solution with 0.01 N solution of $AgNO_3$ in the presence of an adsorption indicator (0.1% aqueous solution of Brilliant Yellow) until the yellow-green color changes to orange (RZhKhim, 1955, 46100). A detailed description is given of the selection of optimal conditions of combustion as well as a comparison of the proposed procedure with the

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Organic Substances. E

Abs Jour: Ref Zhur-Khim, No 12, 1959, 42138.

Author : Vecera, M.; Synek, L.
Inst : Czechoslovakian Chemical Society.
Title : Organic Quantitative Analysis. XVIII. Microdetermination of Carbon and Hydrogen Using Cobalt Mixed Oxide as Combustion Catalyst.

Orig Pub: Collect. czechosl. chem. commun., 1958, 23, No 7, 1202-1212.

Abstract: No abstract. See Ref Zhur-Khim, No 2, 1959, 4378.

Card 1/1

SYNEK, L.

Organic quantitative analysis. XXI. A new method for the determination of nitrogen with cobalt oxides as combustion catalysts. M. Večeřa and L. Synek (Výzkumný ústav org. synthes., Pardubice-Rybitví, Czech.). *Collection Czechoslov. Chem. Communs.* 24, 3402-6(1959); cf. *C.A.* 54, 173c.—Detn. of N is carried out by burning the org. compd. at 800–50° in a stream of CO_2 and O over a layer of cobaltous and cobaltic oxides (*C.A.* 51, 10207c) held at 750°, the excess O being absorbed by a layer of Cu wire at 550°. The analysis lasts 15 min., the combustion 8–10 min., and requires 2–5 mg. of material. M. Hudlický

VECERA, M.; VOJTECH, F.; SYNEK, L.

Quantitative organic analysis. XXII. New method for rapid automatic combustion of organic substances; microdetermination of carbon and hydrogen. Coll Cz Chem 25 no.1:93-100 Ja '60. (EEAI 9:12)

1. Forschungsinstitut fur organische Synthesen, Pardubice-Rybitvi.
(Chemistry, Analytic-Quantitative)
(Combustion) (Organic compounds)
(Carbon) (Hydrogen)

VECERA, M.; SYNEK, L.; STERBA, V.

Rearrangement of aromatic hydrazo compounds. IV. Study of the acid catalysis and the effect of the medium and the temperature on rearrangement of hydrazobenzene. Coll Cz Chem 25 no.8:1992-2004 Ag '60. (EEAI 10:9)

1. Forschungsinstitut fur organische Synthesen, Pardubice-Rybitvi.

(Hydrazo compounds) (Aromatic compounds) (Rearrangements) (Catalysis) (Hydrazobenzene)

SYNEK, Milos

Invagination of the small intestine in adults. Rozhl. chir. 38 no.8:540-545 Aug 59

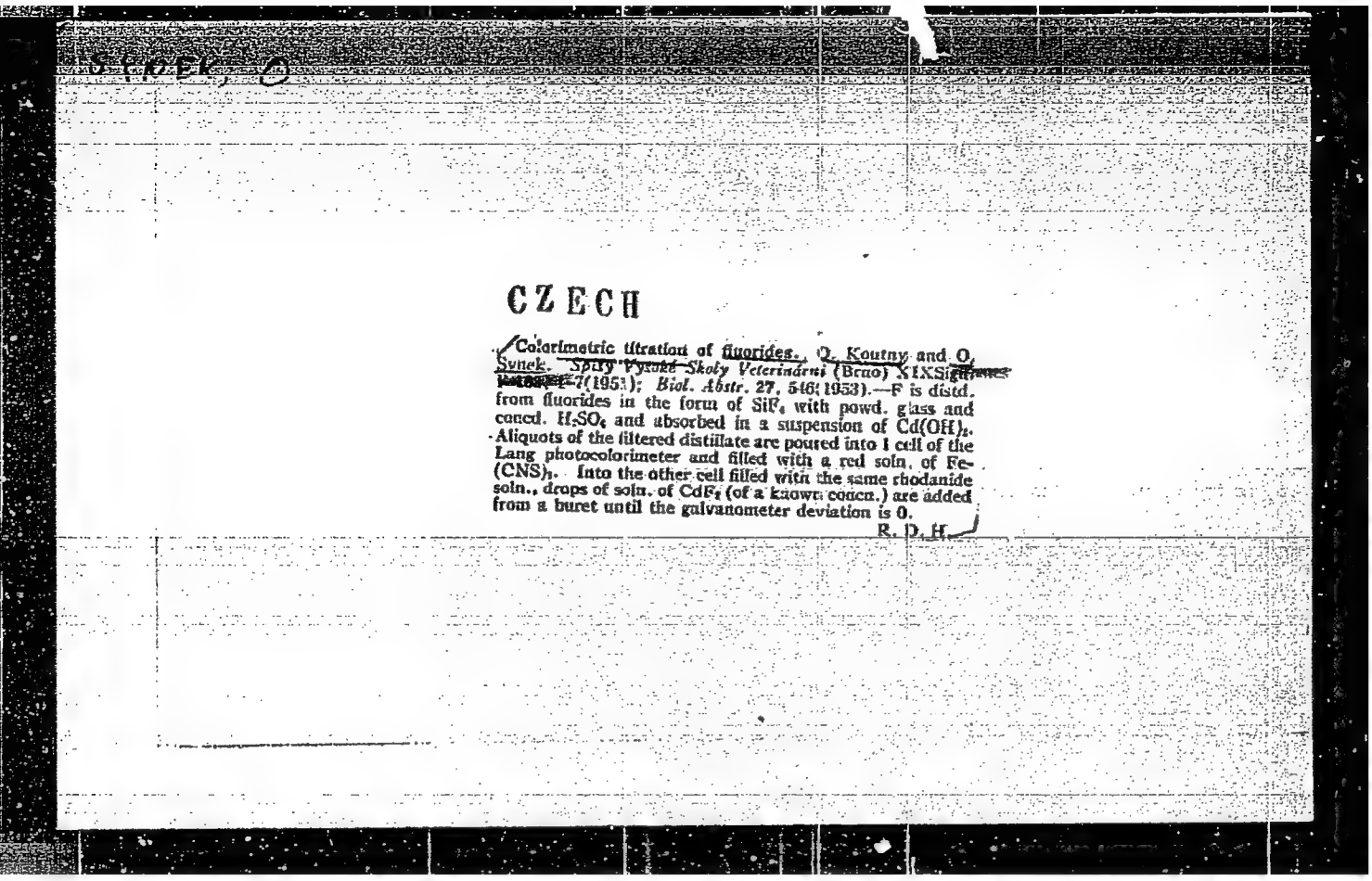
1. I. Chirurgicka klinika MU v Brne, prednosta prof. MUDr. J. Podlaha.

(INTUSSUSCEPTION)

SYNEK, Milos

Acute hemorrhagic pancreatic necrosis in an adolescent. Rozhl. chir.40 no.1:32-35 Ja '61.

1. I. chirurgicka klinika v Brne, prednosta prof.dr. J.Podlaha.
(PANCREAS dis)



CZECH

Colorimetric titration of fluorides. Q. Koutny and O. Synek. *Sbory Vysoke Skoly Veterinarni* (Brno) XIX[illegible] 7(1951); *Biol. Abstr.* 27, 546(1953).—F is distd. from fluorides in the form of SiF_4 with powd. glass and concd. H_2SO_4 and absorbed in a suspension of $Cd(OH)_2$. Aliquots of the filtered distillate are poured into 1 cell of the Lang photocolorimeter and filled with a red soln. of $Fe(CNS)_3$. Into the other cell filled with the same rhodanide soln., drops of soln. of CdF_2 (of a known concn.) are added from a buret until the galvanometer deviation is 0.

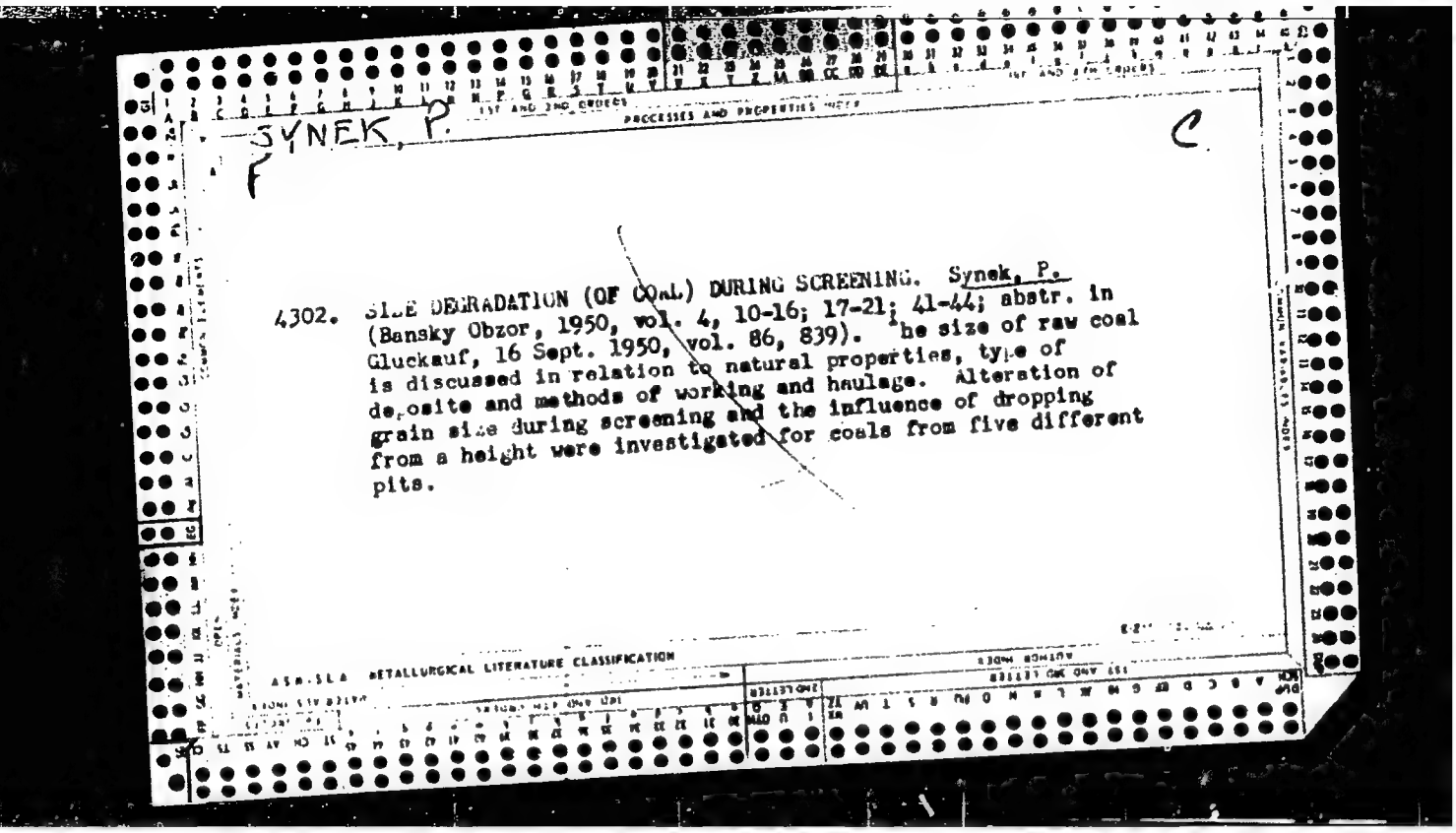
R. D. H.

Smich, C.

Koutny, C.; Smich, C.

"Colorimetric Titration Of Fluorides." p. 237.
(Spisy. Vol. 19, No. 177-184, 1951, Brno.)

SO: Monthly List of East European Accessions, Vol. 3, No. 3. Library of Congress, March 1954, Uncl.



SYNEK, P.

F C

4302. SIZE DEGRADATION (OF COAL) DURING SCREENING. Synek, P. (Bansky Obzor, 1950, vol. 4, 10-16; 17-21; 41-44; abstr. in Gluckauf, 16 Sept. 1950, vol. 86, 839). The size of raw coal is discussed in relation to natural properties, type of deposits and methods of working and haulage. Alteration of grain size during screening and the influence of dropping from a height were investigated for coals from five different pits.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

"Plan for mining by the shortwall method with backfilling in the vast seams of the North Bohemian Brown-Coal Mines; a contribution to a discussion."
Uhli, Praha, Vol 4, No 6, June 1954, p. 165

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

SYNEK, P.

19. PROPOSED METHOD OF MINING THICK SEAMS AND CAVED AREAS IN NORTH BOHEMIAN COAL FIELD. Synek, P. (Bergbautechnik, Aug. 1955, vol. 5, 402-405). (L).

SYNEK, Pavel; KOSEK, Miroslav; SYNEK, Vladimir

Plasma lipoproteins and lipoids in clinical diagnosis of arteriosclerosis. Cas.lek.cesk.99 no.29:1068-1075 19 Ag'60.

1. Oddeleni pro klinickou biochemii, prednosta MUDr. Miroslav Kosek, interni oddeleni, prednosta MUDr. Frantisek Kaderabek, a neurologiske oddeleni, prednosta MUDr. Karel Sedivy, OUNZ-nemocnice v Pribrami.
(ARTERIOSCLEROSIS blood)
(LIPOPROTEINS blood)
(LIPIDS blood)

SYNEK, P.; SYNEK, V.; NECASKOVA, A.; Research Institute for Experimental Therapy (Vyzkumny Ustav Exeprimentalni Terapie), Prague-Krc, Director (Reditel) Prof Dr O. SMAHEL; Neurological Clinic, Medical Faculty, Charles University (Neurologicka Klinika Lekarske Fakulty KU), Plzen, Head (Prednosta) Docent Dr E. KLIMKOVA-DEUTSCHOVA; Research Institute for Antibiotics and Biotransformations (Vyzkumny Ustav Antibiotik a Biotransformaci), Roztoky near Prague.

"Treatment of Bacterial Infections with Emetine."

Prague, Casopis Lekaru Ceskych, Vol 105, No 26, 24 Jun 66, pp 701 - 704

Abstract : /Authors English summary 7: Parenterally administered emetine frequently proves an effective drug in the treatment of bacterial and mycotic infections, particularly when antibiotics are without effect. The effect of emetine in septic conditions is probably related to its bactericidal action in vitro. There is no satisfactory explanation for its action. 15 Western, 14 Czech references. (Manuscript received Oct 65).

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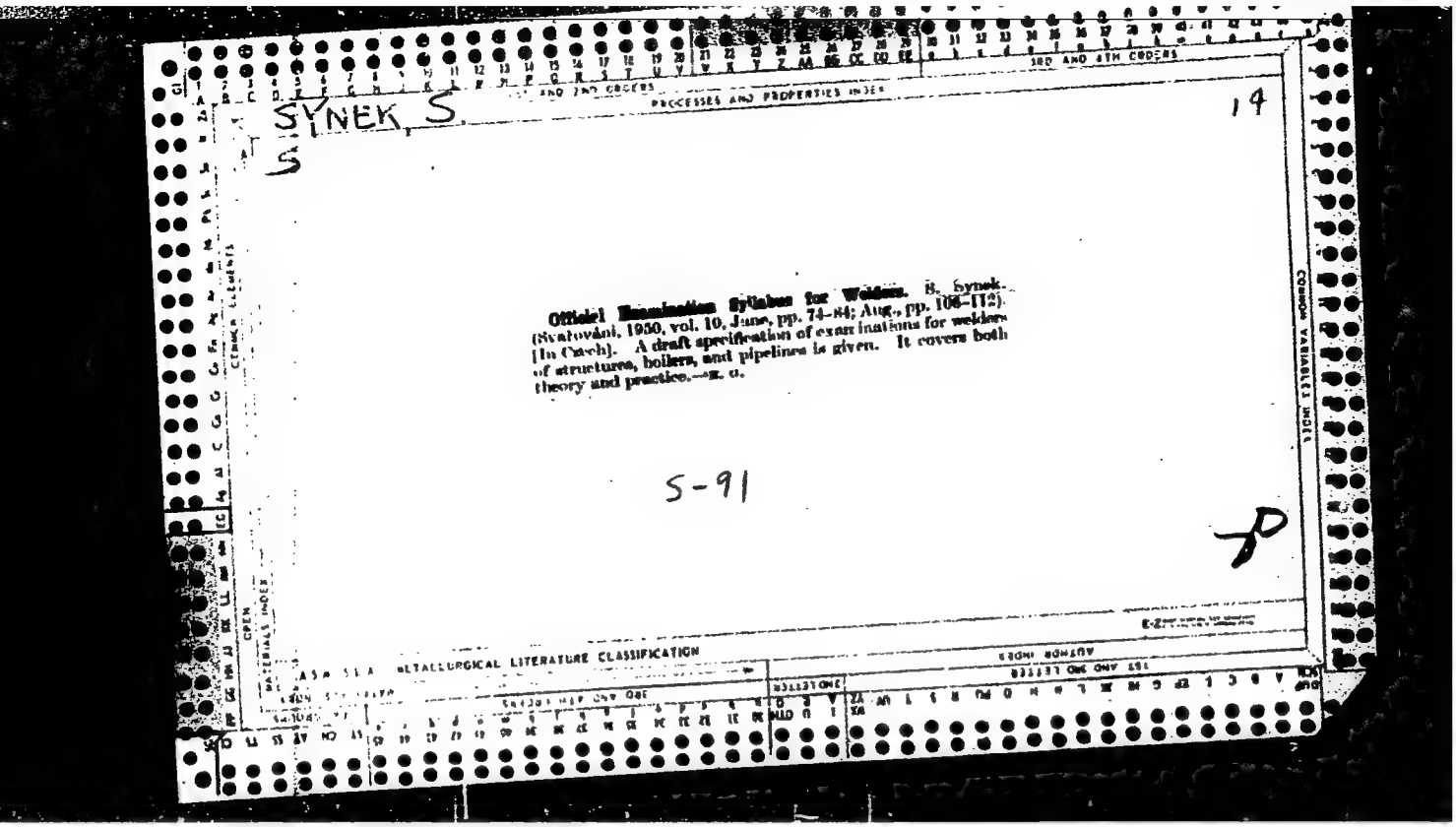

SYNEK, S.

S

14

Official Examination Syllabus for Welders. S. Synek. (Svařování, 1950, vol. 10, June, pp. 74–84; Aug., pp. 108–112). [In Czech]. A draft specification of examinations for welders of structures, boilers, and pipelines is given. It covers both theory and practice.—E. C.

S-91

P

SYNEK, S.

New regulations for transportation of radioactive substances in the Soviet Union. Jaderna energie 7 no.12:407 D '61.

SYNEK, S.

Reactor for production of superheated steam. Jaderna energie 7 no.12: 420 D '61.

SYNEK, S.

Development of nuclear reactors with liquid fuel. Jaderna energie 8 no.1:8 Ja '62.

SYNEK, S.

Prospects of nuclear power in Sweden. Jaderna energie 10 no.1:30-31 Ja'64.

SYNEK, S.

Member states in the international atomic energy organizations.
Jaderna energie 10 no. 3:102 Mr '64.

SYNEK, S.

Prospects of supplying capitalist countries with uranium.
Jaderna energie 10 no.8:306-308 Ag '64.

SYNEK, J.

Future of fast breeders. Jaderna energie 10 no.10:387, 388 O '64.

SYNEK, S.

Problems of increasing the unit capacity of nuclear power plants.
Jaderna energie 10 no.12:456-457 D '64.

SYNEK,V.; SAFAR, V.

Certain less frequent congenital anomalies of the shoulder joint.
Acta chir.orthop.traum. cech. 27 no.5:432-437 O '60.

1. II klinika pro ortopedii a detskou chirurgii KU, prednosta prof. dr. Otakar Hnevkovsky
(SHOULDER abnorm)

SYNEK, Pavel; KOSEK, Miroslav; SYNEK, Vladimir

Plasma lipoproteins and lipoids in clinical diagnosis of arteriosclerosis. Cas.lek.cesk.99 no.29:1068-1075 19 Ag'60.

1. Oddeleni pro klinickou biochemii, prednosta MUDr. Miroslav Kosek, interni oddeleni, prednosta MUDr. Frantisek Kaderabek, a neurologicke oddeleni, prednosta MUDr. Karel Sedivy, OUNZ-nemocnice v Pribrami.
(ARTERIOSCLEROSIS blood)
(LIPOPROTEINS blood)
(LIPIDS blood)

Synek, V.

The beer-brewing industry in Japan. p. 29, KVASNY PRUMYSL. (Ministerstvo potravinarskeho prumyslu) Praha. Vol. 2, no. 2, Feb. 1956.

Source: EEAL LC Vol. 5, No. 10 Oct. 1956

KLIMKOVA-DEUTSCHOVA, Eliska; SALCHANOVA, Zdenka; SCHWARTZOVA, Kveta; SYNEK, Vladimir; SUSANKOVA, Vera.

Importance of neurological findings in the diagnosis of diseases caused by vibration. Prac. lek. 17 no.1:1-5 Ja '65

1. Neurologicka klinika lekarske fakulty Karlovy University v Plzne (prednostka: doc. dr. E. Klimkova-Deutschova).

SYNEK, Vladimir, podplukovnik MUDr.

Newly found cases of tuberculosis in the Army in the years 1961-1963. Voj. zdrav. listy 34 no.3:119-123 de '65.

L 12835-66

ACC NR: AP6005715 SOURCE CODE: CZ/0082/65/000/003/0235/0235

AUTHOR: Hirschova, E.; Laciga, Z.; Salcmannova, Z.; Schwartzova, K.; Synek, V.

ORG: Neurological Clinic, Medical Faculty, Charles University, Plzen (Neurologicka klinika lekarske fakulty KU)

TITLE: Epilepsy in arteriosclerotic angiopathy

21
B

SOURCE: Ceskoslovenska neurologie, no. 3, 1965, 235

TOPIC TAGS: clinical medicine, neurology, nervous system disease, circulatory system disease, cerebral cortex, electroencephalography

ABSTRACT: Clinical and EEG observations of 64 patients are reported. All showed epileptic seizures first after reaching 40 years of age. Most cases showed clinical aspects of arteriosclerosis. EEG showed an obvious slowing down of rhythm. The epileptic irritation originates in arteries close to the brain cortex. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 1/1 HW

SIVAK, S.; SYNEK, V.

On the application of tuberculin tests in epidemiological practice. Cesk. epidem. 14 no.6:321-329 N '65.

1. 2. Okruhovy hyg.-epid. oddiel, Bratislava.

SYNEK, V.; KROFTA, V.; Neurological Clinic, Medical Faculty, Charles University (Neurologicka Klinika Lek. Fak. KU), Plzen, Chief (Prednostka) Docent Dr E. KLIMKOVA-DEUTSCHOVA.

Prague, Ceskoslovenska Neurologie, Vol 29, No 6, Nov 66, pp 365 - 368

Abstract [Authors' English summary modified]: EMG activity of the respiratory and auxiliary muscles was examined in 10 patients with lung emphysema and 10 patients with complicated silicosis with equal degree of respiratory involvement. In patients with emphysema, the activity of both respiratory and auxiliary muscles was markedly increased. In complicated silicosis the activity of respiratory muscles was inhibited, while the activity of the auxiliary muscles was increased. The differences between the 2 diseases are discussed. 1 Figure, 2 Western, 3 Czech, 1 Russian reference. (Manuscript received 1 Jun 66).
1/1

SYNEK, VLADIMIR.

Organizacia stavebnych procesov prudovou metodou; teoria a ekonomika prudovej metody. (Vyd. 1.) Bratislava, Statne nakladatel'stvo technickej literatury, 1954. 478 p. (Technologicke pokyny) [Organization of building processes by the assembly-line method; theory and economics of the assembly-line method. 1st. ed. diagrs., tables)

East European Accessions List Vol. 5 No. 1 Jan. 1956

SYNEK, V.

The SKF self-adjusting roller bearings. p. 423.
(Kozlekedestudomanyi Szemle, Vol. 6, no. 11/12, Nov./Dec. 1956.
Budapest, Hungary)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 9, Sept. 1957. Uncl.

SYNEK, V.

Meningioma of the 3d cerebral ventricle. (Case reports). Cesk. neurol. 25 no.5:333-336 S '62.

1. Neurologicke oddeleni nemocnice v Pribrami, prednosta MUDr. K.Sedivy.
(CEREBRAL VENTRICLE NEOPLASMS) (MENINGIOMA)

SYNEK, V.; MICHAL, F.

Importance of the EEG in the diagnosis of puerperal venous cerebral obstructions. Plzen. lek. sborn. 24:103-108 '64

1. Neurologicka klinika University Karlovy v Plzni (prednostka: Doc. dr. E. Klimkova-Deutschova, CSc.).

CZECHOSLOVAKIA UDC 616.24-003.65-057:(622):616.745-073.97

KLIMKOVA-DEUTSCHOVA, Eliska; SYNEK, Vladimir; FISAROVA, Marie; KROFTA, Vaclav; JANKOVA, Jarmila; Neurological Clinic, Med. Fac. Charles University (Neurologicka Klinika Lek. Fak. KU), Plzen, Chief (Prednostka) Docent Dr E. KLIMKOVA-DEUTSCHOVA; Department of Occupational Diseases, State Faculty Hospital (Oddeleni pro Choroby z Povolani Statni Fakultni Nemocnice), Plzen, Chief (Prednosta) Dr F. HUZL.

"Importance of Polyelectromyographic Examination of the Respiratory Muscles in Patients Suffering from Miner's Silicosis and Pneumoconioses."

Prague, Pracovni Lekarstvi, Vol 19, No 2, Mar 67, pp 49 - 51

Abstract /Authors' English summary modified/: 50 patients in various stages of silicosis were examined polyelectromyographically. The findings were compared to X-ray photographs and to the vital lung capacity. In the stage of dust stigmatization and reticulation, the finding of normal and increased activity of the respiratory muscles prevail; high rate of decreased activity of these and an increased activity of auxiliary muscles are found in simple and

ROUS, Josef; SYNEK, Vladimir

Objective olfactometry. Plzen. lek. sborn. 23:81-89 '64

1. Klinika nemoci usnich, nosnich a krcnich,(prednosta: prof. dr. F. Kotyza), a Neurologicka klinika lekarske fakulty University Karlovy se sidlem v Plzni (prednostka: doc. dr. E. Klimkova-Deutschova).

L 08915-67 EWT(1) IJP(c) AT

ACC NR: AP6028707 SOURCE CODE: UR/0185/66/011/008/0825/0828

AUTHOR: Synel'nykov, K. D. -- Sinel'nikov, K. D.; Honcharenko, V. P. -- Goncharenko, V. P.; Honcharenko, D. K. -- Goncharenko, D. K.

57 B

ORG: Physico-Technical Institute, AN UkrSSR, Khar'kov (Fizyko-tekhnichnyy instytut AN URSR)

TITLE: Motion of a plasma jet across a nonuniform transverse magnetic field

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 8, 1966, 825-828

TOPIC TAGS: plasma jet, plasma flow, transverse magnetic field, magnetic field plasma effect

ABSTRACT: It is shown by using the equations of E. N. Parker (Phys. Rev., 107, 924, 1957.) that the motion of a plasma jet across a nonuniform magnetic field is decelerated if ∇B is positive and is accelerated in decreasing fields. The equation for the square of the drift velocity, which is proportional to linear field changes, is given. This jet motion is one of the simplest effects in plasma physics. The theory holds that, depending on conditions, a plasma jet must move as a whole across the magnetic field with a magnetic field of nearly zero in the jet if temperature of two components of the jet is small compared to the jet's kinetic energy of

Card 1/2

L 04915-67

ACC NR: AP6028707

motion, giving an electric field of $E = v_x B/c$ and a polarization-generated space charge of a certain thickness. Plasma jet behavior under real conditions is proved by numerous experiments to differ from theoretical in direction and speed. The present article shows that experimentally observed behavior of a plasma jet in a transverse gradient field is in absolute agreement with elementary plasma drift theory. The subject studied is a delimited plasma mass first moving at constant velocity in a uniform field and then encountering a gradient field with consequent drift. Basic assumptions of the calculations are that (1) plasma mass has magnetic moment and (2) speeds and field gradients fulfill the adiabatic law for ions and depend on the method of plasma generation. Orig. art. has: 9 formulas and 1 figure.

SUB CODE: 20/ SUBM DATE: 06Sep65/ ORIG REF: 008/ OTH REF: 002

Card 2/2

SYNGAYEVSKIY, A.V.

Standardizing and planning geological prospecting operations.
Razved.i okh.nedr 21 no.2:57-58 Mr-Ap '55. (MLRA 9:12)

(Prospecting)

SYNGAYEVSKIY, D.I., inzhener [deceased]; SOVALOV, I.G., kandidat tekhnicheskikh nauk, redaktor; DAKHNOV, V.S., tekhnicheskiy redaktor.

[The problem of rapid construction using monolithic reinforced concrete] K voprosu o skorostnom stroitel'stve iz monolitnogo zhelezobetona. Moskva, Gos. izd-vo stroitel'noi lit-ry, 1948. 86 p. (Reinforced concrete construction) (MLRA 8:2)

[illegible] .A.; MUDRAK, Yu.A.; GRIBOV, Ye.M.; SYNGAYEVSKIY, Ye.D.

[illegible]lation of clay minerals in the Upper Famennian rocks and ores of the Dzhail'ma trough. Dokl. AN SSSR 164 no.4:906-909 O '65. (MIRA 18:10)

1. Laboratoriya osadochnykh poleznykh iskopayemykh AN SSSR. Submitted May 12, 1965.

L 52283-65 EPA(s)-2/EWT(m)/EWP(t)/EWP(b) Pt-7 IJP(c) JD/JG

ACCESSION NR: AT5012682 UR/2513/65/015/000/0213/0223

AUTHOR: Gladyshev, V.P.; Synkova, D.F.; Yenikeyev, R.Sh.; Kucherenko, N.A.; Voylokova, V.V

TITLE: Electrochemical concentration methods in the analysis of bismuth

SOURCE: AN SSSR. Komissiya po analiticheskoy khimii. Trudy, v. 15, 1965. Metody kontsentrirovaniya veshchestv v analiticheskoy khimii (Methods of concentrating substances in analytical chemistry), 213-223

TOPIC TAGS: bismuth analysis, bismuth concentration, electrochemical concentration, bismuth deposition, amalgam electrode, spectroscopic analysis, cementation, lead determination, polarography

ABSTRACT: The authors studied the possibility of using two variants of the electrochemical concentration process in analyzing pure bismuth: (1) deposition at a solid cathode with a controlled potential, and (2) the amalgam method. Using the first method, the authors showed that bismuth could be separated by electrodeposition from a large number of elements present in amounts of 10^{-4} to 10^{-6}%. Electrolysis was carried out in nitric acid solutions. The following elements were determined in bismuth (spectrographically): Pb, Sb, Cd, Zn, Mn, Fe, Co, Ni, Cr, Ti, In, Tl, Al, As, V, Ca, Mg,

Card 1/2

L 52283-65

ACCESSION NT: AT5012682

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and Ba. Elements which codeposit with bismuth (Ag, Hg, Cu, Se, Te) are determined by direct spectrographic analysis or by means of organic reagents. In the amalgam method, the authors utilized cementation to separate bismuth from electronegative metals. This method of concentration was used in an oscillopolarographic determination of lead in bismuth. In addition to lead, thallium, indium, cadmium, zinc, tin, and manganese present in bismuth in amounts of up to 10^{-4}% can be similarly determined. The sensitivity of the method is limited by the limits of applicability of the Nernst equation for amalgam electrodes to very dilute amalgams and by the formation of sparingly soluble intermetallic compounds between the metals and mercury. "N. F. Zakharchuk, A. I. Shmeyer, G. P. Chinayeva, and N. V. Zhukov participated in the work." Orig. art. has: 4 figures and 5 tables.

ASSOCIATION: Komissiya po analiticheskoy khimii, AN SSSR (Commission on Analytical Chemistry, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 015 OTHER: 001

Card 2/2

SYNKOVA, D. P.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleyev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

V. P. Gladyshev, L. A. Gudovskaya, A. I. Ivankova, and D. P. Synkova, Fluorimetric and oscillographic polarography methods for determining Te and Se, respectively, in high-purity bismuth, with sensitivity of 10^{-5} to 10^{-6}%.

(Zhur Anal Khim 19 No. 6, 1964 p. 777-79)

SYNKOVA, J.; KRASNA, V.

Influence of factors of communal hygiene on the incidence and course of rheumatic fever in children. p. 501.

CESKOSLOVENSKA HYGIENA. Praha, Czechoslovakia. Vol. 4, no. 9, October. 1959.

Monthly list of East European Accessions (EEAI) LC, Vol. 9, no. 1, January 1960.

Uncl.

KRASNA, Vera; SYNKOVA, Jana

On the problem of the effect of certain aspects of living conditions on febris rheumatica in children. Cesk.epidem.mikrob.imun.9 no.5/6: 342-347 J1'60.

1. Hygienicko-epidemiologicka stanice UNV Praha.
(RHEUMATIC FEVER social)

SYNKOVA, Jarmila; BOJANOVSKY, Jiri

Shagass' test in differential diagnosis of depressive states. Cesk. psychiat. 55 no.4:233-239 June 59.

1. Psychiatricka klinika v Brne.
(PSYCHOSES, MANIC DEPRESSIVE, diag.)

NAHUNEK K.; RODOVA,A.; SYNKOVA,J. ; Technicka spoluprace: Tovarek,J.

Dichloropromazine VUFB. Therapeutic experience in psychoses.
Cesk. psychiat. 55 no.5:307-311 O '59.

1. Psychiatricka klinika a III. interni klinika MU v Brne.
(PSYCHOSES ther.)
(TRANQUILIZING AGENTS ther.)

CHALUPA, B.; SYNKOVA, J.; SERVCIK, M.

Electroencephalographic changes and memory disorders in acute intoxication with industrial poisons. Cas.lek.cesk. 98 no.38: 1207-1208 18 S '59.

1. Klinika chorob z povolani v Brne, prednosta doc. MUDr. K. Kadlec. Psychiatricka klinika v Brne, prednosta prof. MUDr. J. Hadlik.
(OCCUPATIONAL DISEASES)
(POISONING)
(ELECTROENCEPHALOGRAPHY)
(MEMORY)

SYNKOVA, Jarmila

Prolonged EEG investigation of changes consecutive to acute intoxication with certain industrial poisons. Cesk. psychiat. 56 no.3:179-183 Je '60.

1. Psychiatricka klinika v Brne.
(ELECTROENCEPHALOGRAPHY)
(POISONING compl.)

HOSAK, L.; SYNKOVA, J.; GROSS, J.

Experience with the influence of flattened and flat electroencephalograms by cyanazide-VUFB. Activ. nerv. sup. 3 no.2:207-208 '61.

1. Psychiatricka klinika University J. E. Purkyne v Brne.

(ELECTROENCEPHALOGRAPHY pharmacol)
(HYDRAZINE pharmacol)

SYNKOVA, J.; RODOVA, A.

Electroencephalographic findings during prochlorperazine therapy with special reference to excitomotor crises. Activ. nerv. sup. 3 no.2: 208-209 '61.

1. Psychiatricka klinika University J. Ev. Purkyne, Brno.

(PROCHLORPERAZINE ther)
(EXTRAPYRAMIDAL TRACTS pharmacol)
(ELECTROENCEPHALOGRAPHY pharmacol)
(MOVEMENT DISORDERS ther)

SYNKOVA, J.; CHALUPA, B.; SEVCIK, M.

An objective method for the detection of certain injuries in the CNS in acute industrial poisoning. Cesk. psychiat. 57 no.2:104-112 '61.

1. Psychiatricka klinika v Brne -- Klinika chorob z povolani.
(OCCUPATIONAL DISEASES diag) (POISONING diag)
(CENTRAL NERVOUS SYSTEM dis.)

SYNKOVÁ, J.; NAHUNEK, K.

Changes in the EEG after the use of dichlorpromazine (preliminary report). Cesk. psychiat. 57 no.6:405-406 '61.
(ELECTROENCEPHALOGRAPHY pharmacol.) (CHLORPROMAZINE pharmacol.)

SYNKOVA, J.; NAHUNEK, K.; RODOVA, A.

Comparative activating effect of dichlorpromazine and chlorpromazine on the electroencephalogram. Activ. nerv. sup. 4 no.2:214-215 '62.

1. Psychiatricka klinika lekarske fakulty University J. E. Purkyne v Brne.

(ELECTROENCEPHALOGRAPHY) (CHLORPROMAZINE)
(CHLORPROMAZINE rel cpds)

SEVCIK, M.; CHALUPA, B.; HRAZDIRA, C.L.; KLHUJKOVA, E.; SYNKOVA, J.

Acute group poisoning with active organic phosphates. Prac. lek. 14 no.7:317-321 S '62.

1. Klinika nemoci z povolani v Brne, prednosta doc. cr. J. Vyskocil.
(PHOSPHORUS POISONS ORGANIC) (NEUROLOGY)

SYNKOVA, J.

1

CZECHOSLOVAKIA

KRASNA, V; SYNKOVA, J.

HES-NV (HES-NV), Prague

Prague, Ceskoslovenska hygiena, No 6, 1963, pp 320-327

"Contribution to the Study on the Effect of Pollution of the Atmosphere with Cancerogenous Substances on the Occurrence of Bronchogenous Carcinoma."

KRASNA, V.; SYNKOVA, J.; Technicka spoluprace; JURAJDOVA, J.; KRUTZNER, E.; WITZOVA, D.

Contribution to the study on the effect of pollution of the atmosphere with cancerogenous substances on the occurrence of bronchogenous carcinoma. Cesk. hyg. 8 no.6:320-327 Jl '63.

1. HES-NV Praha.
(AIR POLLUTION) (SMOKING)
(CARCINOMA, BRONCHOGENIC) (BENZOPYRENES)
(HYDROCARBONS) (ARSENIC)

CZECHOSLOVAKIA

HANYSOVA, Z.; CHLOUPKOVA, K.; BOJANOVSKY, J.; BOUCHAL, M.; SYNKOVA, J.; Psychiatric Clinic, J.E. Purkyne University, Brno. [Original version not given].

" A Clinical Comparison of a Placebo, Diazepam, and Diazepoxide at Short-Time Application in Neuroses."

Prague, Activitas Nervosa Superior, Vol 8, No 4, Nov 66, pp 438 - 439

Abstract: A comparison between diazepoxide (Librium Roche) and diazepam (Valium) was made in an investigation conducted on 37 hospitalized patients (20 neurasthenias, 12 depressive neuroses, 4 anxious neuroses, and 1 mixed neurosis). 10 mg of Valium and 30 mg of Librium were used as one dose. An improvement was achieved with both drugs, but a deterioration occurred with the placebo. Valium acts better on neuroses than librium. The anxiolytic effect of both drugs was the same. No references. Submitted at the 8th Psychopharmacological Meeting at Jesenik, 18 - 22 Jan 66. Article is in English.

1/1

GRITSEV, N.D. (Ufa); SYNKOVA, V.G. (Ufa)

Final purification of waste waters containing petroleum by filtration through wood shavings. Vod. i san.tekh. no.11:31-32 N '58. (MIRA 11:12)

(Sewage--Purification) (Filters and filtration)

LEPIESZKIEWICZ, Zygmunt, mgr inz.; SYNORADZKI, Jerzy, mgr inz.

Certain control and signaling installations applied to weirs and chamber locks. Gosp. wodna 22 no.10:433-436 O '62.

1. Hydroprojekt, Warszawa.

SOV/110-58-10-19/24

AUTHOR: Synorov, F.V. (Cand.Phys.Math.Sci.) & Lobashevskiy, L.V. (Engineer)

TITLE: On 'The sliding contact' in the Great Soviet Encyclopaedia (O 'Skol'zyashchem kontakte' v Bol'shoy Sovetskoy Entsiklopedii)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, No.10. pp. 72-74 (USSR)

ABSTRACT: In the article 'The sliding contact' in the Great Soviet Encyclopaedia it is stated that the volt-ampere characteristics of contact are linear and that there is no polar effect in the copper/brush contact when stationary. These statements are not confirmed by experiments described in this article. Tests show, firstly, that a copper/copper contact is linear at current densities up to 100 A/cm^2 and does not depend on the direction of flow of current. Then the contact characteristics of a brush/brush contact are given, in Fig.2. With one type of brush the contact resistance is practically independent of current density and direction, but in another linearity is disturbed, apparently by local heating effects. Next, the resistance of a stationary copper/brush contact is shown by the graphs in Fig.3. to depend on the magnitude and direction of the current. This also applies to sliding contacts in electrical machines. Tests were made of the transient voltage-drop at low current-densities; the curves in Fig.4. indicate that polar differences also occur at very low current-densities where the

Card 1/2

influence of the current on the properties of the contact is excluded. Heating of the contact increases the thickness of oxide layer on the copper surface and hence increases the contact resistance. The contact resistance between a brush and gold does not alter with temperature, because no oxide film is formed. There are 4 figures and 1 literature reference (Soviet)

1. Sliding contacts--Electrical properties 2. Sliding contacts--Test results 3. Sliding contacts--Encyclopedias 4. Literature--Errors

SYNOROV, V. F. Cand Phys-Math Sci -- (diss) "Electric properties of thin layers of antimonides of aluminum, indium, and gallium obtained by the method of Academician S. A. Vekshinskiy." Tomsk, 1957. 9 pp. (Min of Higher Education USSR. Tomsk State Univ im V. V. Kuybyshev), 100 copies (KL, 42-57, 91)

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A052/A001

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 12, p. 10 # 23990

AUTHOR: Synorov, V. F.

TITLE: Electric Properties of Thin AlSb, InSb and GaSb Layers Produced by S. A. Vekshinskiy's Method

PERIODICAL: Tr. 1-y Mezhvuzovsk. konferentsii po sovrem. tekhn. dielektrikov i poluprovodnikov. 1956, Leningrad, 1957, pp. 170-176

TEXT: Electric properties of thin layers produced by the Vekshinskiy spraying method have been investigated. On the portions of binary compounds where the concentration of components corresponds to the stoichiometric relation $A^{III}B^{V}$ semiconductor chemical compounds AlSb, InSb and GaSb with ZnS-type structure are formed, which is confirmed by X-ray structural and electronic microscopic investigations. The temperature dependence of electric conductivity σ, Hall constant R and thermal electromotive force coefficient a in the temperature range from -180° to +150°C has been studied. All specimens were of the p-type. The temperature

Card 1/2

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Electric Properties of Thin AlSb, InSb and GaSb Layers Produced by S. A. Vekshinskiy's Method

course of σ, R and a has some anomalies inexplicable within the framework of conventional theory. It is shown that AlSb, InSb and GaSb have surface levels of acceptor type which lie near the filled zone and give rise to p-conductivity. For thin layers having a fine dispersed polycrystalline structure the main concentration of holes is determined by transitions between the surface and the filled zone, whereby a degenerated state of the hole gas has taken place in the investigated samples. On account of this property of thin layers AlSb, InSb and GaSb are very similar and individual distinctions of the compounds smooth out at low temperatures. The sign inversion of R with some InSb samples at 100°C is explained by the presence of intrinsic conductivity. Information concerning methods of producing and measuring thin layers is supplied. There are 16 references.

ASSOCIATION: Siberian Physiko-Technical Institute

V. A. K.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

Synorov, V. F.

120-5-31/35

AUTHORS: Presnov, V.A., Pyatnichuk, G.K., and Synorov, V.F.

TITLE: An Instrument for the Measurement of Electrical Conductivity and Hall's Constant in Thin Semi-conducting Layers. (Pribor dlya izmereniya elektroprovodnosti i postoyannoy kholla v tonkikh sloyakh poluprovodnikov)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.5, pp. 119-120 (USSR).

ABSTRACT: The instrument (Fig.1) can be used for rapid measurement of electrical conductivity and Hall's constant for given areas on thin specimens deposited on slides of glass or other dielectric material. The slide 3 with the deposited samples 4 is kept in position by the cam 2 on a moveable table 1. The table moves on a lath along the guide 7. The fixer 5 keeps the table and, consequently, also the sample in the required positions. A panel 8 on a moveable table has current, compensation and Hall electrodes 6 attached to it. This panel is kept in place by springs 13 and is moved by means of the lever 9 and cam 10, perpendicularly to the plane of the specimen, and keeps the direction of motion by means of the four rods 12. The electrodes can move freely along the bushes, pressed into the panel, under the action of bronze springs 11. The scheme produces the necessary control of contact pressure on the specimen and the

Card1/3

An Instrument for the Measurement of Electrical Conductivity and Hall's Constant in Thin Semi-conducting Layers.

panel can be raised when the table 1 carrying the specimen is moved. The simple construction of the electrodes means that one can have a collection of electrodes made from different materials and having contact surfaces of different form and size, and that one can deposit on their surface various coatings. When working with very thin layers one can put end pieces of soft metal (e.g. indium or tin) on the ends of the electrodes to protect the layer. The distance between the electrodes on the panel can be varied depending on the size of the sample. The samples were deposited on slides 23 x 80 mm^2 in area, the surface area of the samples themselves being 23 x 50 mm^2. After the deposition, the latter surface is divided by means of a standard pattern into sections 23 x 4 mm^2 with gaps of 1 mm between them. The device is suspended between the poles of an electromagnet on two pivots 14, connecting the device with a platform placed on the windings of the electromagnet. Provision is made for the control of the position of the device between the poles of the electromagnet. The device lies in a gap of 25 mm between the poles of the electromagnet. Brass was used for the metallic parts and organic glass for insulation. Measurements were carried out (Ref.1) of

SYNOROV, V. F.

AUTHORS: Synorov, V.F., and Presnov, V.A. 120-6-33/36

TITLE: Method of Investigating the Electrical Properties of Thin Layers on an Insulated Base in a High Vacuum (Metodika issledovaniya elektricheskikh svoystv tonkikh sloyev na izoliruyushchey podlozhke v vysokom vakuume)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, p. 115 (USSR).

ABSTRACT: Investigation of the electric conductivity, the thermal e.m.f. coefficient and the Hall constant of thin layers of semi-conductors deposited on a glass base in vacuum requires evolving special methods of measurement.. Frequently, new experimental tasks occur, for instance, investigation of the properties of specimens stored for a long time in a high vacuum. This task imposes the necessity of ensuring the possibility of repetition of the measurements at definite intervals of time, maintaining the ambient conditions constant. The solution of these problems is possible if mechanically-strong and stable specimens of ohmic contacts are available. In this paper, a method is described of producing such contacts for specimens which are then fitted into an ampule 200 mm long, 15 - 20 mm dia. with 6 external leads. The sequence of the operations is illustrated by Fig.1, p.115. It is based on

Cardl/3

120-6-33/36

Method of Investigating the Electrical Properties of Thin Layers on an Insulated Base in a High Vacuum.

ASSOCIATION: Siberian Physico-technical Scientific Research Institute (Sibirskiy fiziko-tekhnicheskiy nauchno-issledovatel'skiy Institut)

SUBMITTED: May 18, 1957.

AVAILABLE: Library of Congress

Card 3/3

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1952
AUTHOR PRESNOV,V.A., SYNOROV,V.F.
TITLE The Production and Investigation of Intermetallic Compounds in Thin Layers.
PERIODICAL Žurn.techn.fis, 27,fasc. 1, 123-126 (1957)
Issued: 2 / 1957

The present work endeavors to explain the possibilities of the production of compounds of the type $A^{III}B^{V}$ by the method developed by the Academician S.A.VERŠINSKIJ. Here A^{III} and B^{V} denote elements of the third and fifth group respectively of the periodic system.
By reciprocal evaporation several groups of binary preparations of the systems Al-Sb, In-Sb, Ga-Sb were obtained on glass bases. The electric properties were investigated in dependence on the concentration of the components. On this occasion this concentration changed steadily along the sample. The investigated layers had a thickness of from 10^{-4} to 10^{-5} cm. The specific resistance and the coefficient of the thermoelectromotoric force were measured by the compensation method with the following results: The specific resistance of the thin metal films changed only little along the sample and is near the known value. The specific resistance of the samples with binary composition changes considerably along the sample (maximum ϱ = 30 ohm.cm). The course taken by the modification of the coefficient of thermoelectromotoric force agrees well with the course taken by the curve of the specific resistance. Maximum values of up to 220

microvolt/▽ were found. In the domain with maximum semiconductor properties also HALL'S constant was measured. The sign of HALL'S constant agreed with the sign of the coefficient of thermoelectromotoric force, and was positive in every case. Within the limits of measuring accuracy the maximum of semiconductor properties is near the ratio 1:1 of atomic concentrations. Thus, an intermetallic compound with the stoichiometric composition $A^{III}B^{V}$ probably forms within certain domains of the binary alloy with varying concentration. This is also confirmed by investigation of x-ray structure.
Measurements of the course taken by the temperature of electric properties are shown in form of a diagram; the results obtained are: electric conductivity changes only little within the entire measuring domain from the temperature of liquid air up to 150° C. Also HALL'S constant changes only little up to room temperature, but it diminishes rapidly at high temperatures. Further data concern the concentration of the charge carriers, activation energy, the mobility of holes and the coefficient of the thermoelectromotoric force. The electric properties of the thin layers of AlSb, InSb and GaSb differ considerably from the properties of the massive samples of these compounds.

INSTITUTION: Siberian Physical-Technical Institute Tomsk.

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SOV/58-59-4-8550

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 4, pp 166 - 167 (USSR)

AUTHOR: Synorov, V.F.

TITLE: Application of Academician S.A. Vekshinskiy's Method for the Study of Thin Films of $A^{III}B^{V}$-Type Compounds

PERIODICAL: Uch. zap. Tomskiy un-t, 1957, Nr 28, pp 22 - 35

ABSTRACT: The author verified the possibility of obtaining intermetallic compounds of the $A^{III}B^{V}$ type by the method of cocondensing vapors of elements of the III and V groups in a high vacuum. He studied the electrical properties of the thin films resulting from this operation. The samples to be analyzed were prepared from the Al - Sb, Ga - Sb, In - Sb, Tl - Sb, Al - Bi, Ga - Bi, and Tl - Bi systems, of which the first three were studied in detail. The measurement of the electrical properties of the samples versus the component concentration, which varied continuously along the length of the sample, showed that the specific resistance and thermo-emf coefficient have maximum values on those sections where the concentration of the components corresponds to the stoichiometric relation of $A^{III}B^{V}$. For the Al - Sb, Ga - Sb, and In - Sb systems the formation of

Card 1/2

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Application of Academician S.A. Vekshinskiy's Method for the Study of Thin Films of $A^{III}B^{V}$-Type Compounds

semiconducting chemical compounds of AlSb, GaSb, and InSb with a ZnS-type lattice was confirmed by X-ray diffraction and electron microscopic studies. The temperature dependence of the electrical conductivity, the thermo-emf coefficient, and the Hall constant were measured in thin films of the above-mentioned compounds. Some incongruity was detected in the temperature course of the electrical conductivity and Hall constant, as well as an anomalous course of the thermo-emf coefficient which cannot be explained within the framework of the conventional theory of impurity semiconductors. It is shown that the temperature dependence of the electrical properties of thin films ($\sim 10^{-5}$ cm thick) of AlSb, GaSb, and InSb finds a satisfactory explanation when the singularities of the polycrystalline structure of the samples are taken into account, as well as the presence of acceptor levels on the surface of the degenerated state of the hole gas. (Tomsk. Gos. Un-t, USSR).

L. Uvarov

Card 2/2

SYNOROV, V.F.

Effect of surfaces on the electric properties of A^{III} B^{V} -type compounds. Izv. vys. ucheb.zav.; Fiz. no.1:57-62 '58. (MIRA 11:6)

1.Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete im. V.V. Kuybysheva.
(Surfaces (Technology)) (Aluminum antimonide--Electric propterties)
(Indium antimonide--Electric properties)

ZHURAVLEV, V.K.; SYNOROV, V.F.

Electric conductivity of semiconductor films exposed to high-frequency currents. Izv. vys. ucheb. zav.; fiz. no.2:85-91 '58. (MIRA 11:6)

1.Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete im. V.V. Kuybysheva.
(Semiconductors)

AUTHOR: Synorov, V.F. SOV/139-58-4-13/30

TITLE: Surface Properties of Semi-conductors (Poverkhnostnyye svoystva poluprovodnikov)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 4, pp 80 - 85 (USSR)

ABSTRACT: It has been shown by the results of various authors (Refs 1-8) that on the surface of compounds of the type $A^{III}B^{V}$ inversor layers may form which are linked with the presence of surface acceptors. The author of this paper investigated the influence of a transverse electrostatic field with electric conductivity of n-type single crystal specimens of AlSb, InSb and GaSb. The applied technique and the results were published in an earlier paper (Ref 8). In this paper, some results are given of the measurements. In Figure 3, the temperature dependence is graphed of the resistance of a thin, ground layer of AlSb (bottom curve) and of the relative variation of the resistance due to the presence of a transverse field (top curve). In Figure 4, the change of the contact potential difference as a function of time is graphed for ground and for filed (in vacuum) specimens

Card1/2